

ABSTRACT

A position sensor for determining the angular position of a steering wheel. The shaft of the steering wheel is connected to a code disk and turn ring of the sensor so that when steering wheel is rotated, the coded disk and turn ring are also rotated. The code disk is a flat circular disk having a series of cut-outs or bits around its perimeter. A light emitting diode shines a light through the cut-outs and is read by a photo detector which determines the angular position of the code disk. The turn ring is fitted on the outside of the code disk and rotates in a hypocycloidic circle so that for every full revolution of the code disk, the turn ring rotates through a smaller angle. The turn ring is placed over a series of Hall sensors to determine the number of revolutions of the code disk.